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SMALLPOX IN LOWELL, MASS.

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ON the 22d of Sept. last, an Irish woman, by the name of Garvey, came to this city, from Quebec, travelling mostly on foot, and bringing in her arms a child about a year and a half old. She at once resorted to the quarter of our city occupied exclusively by our Irish population, and gained admittance to the second Hilliard house, so called, on Fenwick street. These houses are five in number; they are large wooden buildings of two stories, constructed entirely with reference to this kind of tenants, and containing sixty tenements. Each tenement consists of one room, and, perhaps, a bed room; and is generally occupied by a family, in some cases of eight or ten individuals, with a large proportion of children. This whole neighborhood is composed of dwellings, similar, but not so spacious; and the whole street and group, for dense population, filth, and the utter destitution of every essential to health and virtue, certainly cannot be equalled by any of our elder cities.

The women of this house, where Mrs. G. gained admission, very soon discovered that her child was ill with the smallpox, and somewhat unwilling to expose their children, obliged her to take possession of a chamber in the attic. She was kept in this room until Sept. 25, three days, when their apprehensions getting the better of their hospitality, they supplied her with money, and she took the half-price car on Monday morning, September 25th, for Boston, with her sick child in her arms. Here she forthwith repaired to the Worcester Rail Road office, and thence to Worcester. The child lived until she reached her husband, who was at work on the Western Rail Road, about four miles from Worcester, where it died at an advanced stage of smallpox.

On the 10th of October, an Irishman, very unintentionally, divulged the secret to one of the health commissioners, that there were some supposed cases of smallpox in the quarter of the city above named; and in the afternoon of this day, I found four children sick with the disease. They had been most carefully concealed by their parents, although some of them were as far advanced as the sixth or eighth day, with confluent smallpox.

When we take into view the crowded state of this population, their peculiar habits of associating together, especially about the sick, their want of cleanliness, their repugnance to vaccination, from ignorance of

its advantages (nearly all the adults having had the smallpox), and the fact that the disease had been here concealed most studiously for nearly three weeks, it is at once apparent that no other course than the speedy removal of the infected, seemed consistent with the public safety.

Accordingly, on the morning of October 11th, in two hours, no less than eleven children, in all stages of the disease, were detected and removed to the hospital. Of these eleven, six were from the house where Mrs. G. staid; four were from the adjoining, distant only five feet; and one from another house, about six rods off, on the same side of the street. The whole number eventually removed from the house in which it first appeared, was nine; in fact, every individual in that house who had not had smallpox, took it, except one infant protected by vaccination.

The subsequent admissions to the hospital were as follows:

Oct. 11, 11 cases from Fenwick st.	Oct. 23, 2 cases from Fenwick st.
" 12, 1 "	" 24, 2 "
" 12, 1 "	" 27, 3 "
" 13, 1 "	" 30, 1 "
" 14, 1 "	Nov. 3, 1 "
" 21, 1 "	" 6, 1 "
" 22, 2 "	" 6, 1 "

It will be observed that nineteen cases were from Fenwick street, where the disease began. Twenty-five were under ten years of age, and seven cases were fatal. Up to the 3d November, when we had had twenty-nine cases, it was very easy to trace the manner in which each individual had contracted the disease. After this time, it was not possible to do it.

The facts connected with the Johnson family are sufficiently interesting to require distinct notice. In the same car in which Mrs. G. and her child went to Boston, September 25th, also went Mr. Johnson. On Monday evening, October 9th, he was attacked with violent febrile symptoms. On Thursday evening following, an eruption began to appear upon him, which was pronounced to be smallpox on the following day, and October 14th, Saturday evening, he was removed to the hospital. His case proved to be confluent nearly all over the head and trunk, characterized early by great oppression of the brain, the pock with purplish centres and large blisters of dark-colored serum interspersed. He died on the afternoon of the 21st, on the 12th day of the disease.

At the time of his attack, his family consisted of his wife, six sons, the eldest fourteen years old; two female domestics, three male and two female boarders; in all, fourteen persons. They had all had the vaccine disease but the six boys and two of the boarders. The day the disease was declared to be smallpox in the father, they were all vaccinated with several quills in each. On the following Monday, the vaccination was repeated. In the course of that week it was repeated again, and on Monday, the 23d, it was again done by a neighbor from a fresh arm. The result was as follows.

William, the eldest, escaped entirely, his vaccination of the 16th being successful, as was also that of the two boarders.

Joseph, aged 11, was seized violently on the evening of Friday, the 27th. He had excruciating pain in the abdomen, limbs and back, incessant vomiting, and delirium. On 28th, entered the hospital, and on the 30th the eruption commenced on the chest and neck. At this time his vaccination of the 23d was perfect. Upon each arm I never witnessed a more regular and beautiful vaccine pustule. As the eruption appeared, his symptoms mitigated, although previously very threatening. He went through the smallpox with a copious but distinct eruption, and without the least modification, unless it was that the pustules upon the face were uncommonly small. The vaccine pustules were eventually nearly destroyed by the encroachment of the variolous ones.

Cyrus, aged 9, went into the hospital with the rest of the family on the 28th, but did not complain. On the 29th he began to erupt. He had a very moderate eruption of variola, and kept about all the time. His vaccination of the 23d produced a little pale red conical tumor, with a good deal of surrounding redness, but soon disappeared.

Charles, aged 7. His vaccination apparently produced no effect. He sickened on the 23d, and had a copious, distinct, variolous eruption on the 26th. The disease was perfectly regular, but severe.

Andrew, aged 5, had the disease with about the same violence as Charles, his vaccination never having shown any effect. He was attacked and entered same time as Charles.

Horace, aged 2. His arm, from the vaccination, put on the same appearances as that of Cyrus. He had variola at the same time and with the same mildness as Cyrus, not exceeding one hundred pustules.

One of the domestics, aged forty-five, says she was vaccinated by a physician about eight years ago. She has a large, deep scar upon the arm, but without the indentations which are characteristic of the vaccine scar. She watched with Mr. Johnson on the night of the 10th. On the 23d she had slight illness, and on the 26th, a pretty copious eruption on the face and neck only. These papula went on to enlarge, and on the fourth day were conical, without any central depression. On the fifth they were filled with opaque matter, and soon began to desiccate, so that on November 6th, having had a mild varioloid, she was well. The other members of the family escaped without any sickness.

Edward Kelly, a neighbor, aged twenty-three, watched with Mr. Johnson October 13, and was engaged to remove some bedding after Mr. Johnson was carried to the hospital. He was inoculated with smallpox when he was nine months old, and has its scars, and also scars on the face. With very little constitutional disorder, on the 25th, he broke out with a very copious pustular eruption upon the face and chest. He entered the hospital on the 30th. In nine days, that is, November 3d, the scales had all fallen, leaving indurated knobs under the cuticle. This was the second varioloid.

Mrs. D., a sister of Mr. Johnson, who was with him some hours about the time he began to break out, and visited him in the hospital the day before he died, and who had the vaccine disease about ten

years ago, with a perfect scar, was attacked with severe premonitory symptoms, October 21. A single pustule appeared on the hand, October 25th, and a dozen others followed on the face and scalp, constituting the third varioloid.

The coexistence of the variolous and vaccine diseases was equally as striking in two other cases in the hospital, as in the case of Joseph Johnson. In each of these two, there was no apparent modification, unless in the smaller size of the pustules in the face, which was certainly true in all.

It is worthy of note, that in the family on the Lawrence corporation, consisting of forty-six females, one of the largest boarding houses in the city, the individual attacked with the smallpox was the only unvaccinated one in the house; and no other case followed on that corporation.

Among twenty-four persons employed at the hospital as nurses and attendants, seventeen had had smallpox, and seven the vaccine disease. One of the former had a single variolous pustule upon the hand, yet none of the latter were in the least degree affected. Of fifteen physicians who made occasional visits to the hospital, not one suffered at all.

In Fenwick street and its immediate vicinity, the Irish, with great willingness, brought forward their children for vaccination. On the 12th of October, two days after the disease was discovered among them, 197 children were vaccinated. On the 17th, 19th, and 23d of October, and 1st and 7th of November, 200 more, so that not less than 400 were vaccinated in that neighborhood. The last case of smallpox from this street was October 24th.

We do not mean to have it understood that vaccination was confined to this quarter of the city. There exists among all the incorporated companies here, a permanent arrangement which insures to every individual in their employ, and to their families, this privilege without expense. Through this arrangement the number vaccinated each year is very large, and shows the fearful extent to which our country villages are *unprotected*. There is, of course, an increased demand for the operation whenever smallpox appears among or near us. Within the last fifteen years, the term of my residence here, we have had several alarms. In January, 1824, a fatal case occurred in this town. In March, 1824, another case, which recovered. In November, 1833, a single case at Billerica mills, about four miles from this. In December, 1835, a single case at Dracut, about one mile from our mills. In February, 1837, two cases in this city. These, together with the present, constitute all my experience with the smallpox. Limited as it is, however, and as it must be to every practitioner under forty years of age in New England, it seems to me to add some additional weight to the following propositions, *viz.* :

1. That our confidence in the protective power of vaccination needs not to be impaired.
2. That the number of cases of varioloid, even under circumstances of great exposure to the worst forms of smallpox, is very small.
3. That vaccination has no power of preventing or even modifying

ing smallpox, if not had recourse to before the system has become contaminated.

4. That those who are successfully vaccinated three days after the exposure to smallpox, will escape.
5. That length of time has no tendency to diminish the effect of kinepox in the prevention of smallpox.
6. That the kinepock is a better protection against varioloid than smallpox the natural way or by inoculation.

In our vaccination on a large scale for the Companies, the following mode is the most general—in fact, nearly universal. It combines economy of time and materials with the greatest certainty. A portion of the crust is pulverized and rubbed up with water, so as to form a *fluid paste*, at the time of using it. The puncture is made with the lancet in the usual place, and a quill, dipped in this liquid, is inserted and allowed to remain about ten minutes. A further saving of time may be effected by pointing the quills with the paste and allowing it to dry upon them. But they should be prepared only a short time before using. The number of failures, even with a crust three or four months old, will be surprisingly small.

In vaccinating individuals, the surest mode is the insertion of a small portion of the crust, in its dry state, with the point of a lancet.

Much of the hesitation and error prevailing among us, have arisen from the circumstance that the early friends of vaccination believed and boasted *too much* : they boldly asserted that vaccination was a perfect safeguard in all cases ; and that, too, in the face of numerous facts, demonstrably proving that the most violent course of smallpox could not always withdraw the sufferer from the power of a second infection. It is not surprising that some persons should have seized upon the exceptions to show that, as a part of the doctrine was untrue, the whole might or must be so. Such is actually the state of things among us now : and it seems to us that if the public could be once completely enlightened as to the *real* degree of efficacy, these exceptions would not weigh a feather against the general tenor and amount of our success.

Lowell, Dec. 15th, 1837.

LOBELIA INFLATA (LIN.).

[Communicated for the Boston Medical and Surgical Journal.]

NOTWITHSTANDING this article has been known, written upon, and occasionally used, from time immemorial, still I know of no treatise on the article that would lead the student to a correct understanding of its operative effects or therapeutic application to disease. Like many of my medical brethren, I formerly entertained no very favorable opinion of the therapeutic properties of this article ; but finding no obstacles in the way of testing its operation, I have embraced every convenient opportunity of doing so, and the following is a brief summary of the results of my observations.

“This article belongs to that class of remedies which are known to

exert a peculiar influence, or produce a general change of action, in the secernt and absorbent systems, removing torpor and occasioning improved and increased secretions from the liver and other digestive organs, and also from all the glandular viscera; and, by virtue of this operation, relieving certain dysthetic or cachectic diseases, and often likewise causing a direct revolution of many *atonic* acute, sub-acute, and chronic inflammations, not only of the cranial, thoracic and abdominal viscera, but also of the membranes, muscles and joints." *Lobelia inflata*, on being masticated, imparts to the mouth and fauces a disagreeable *acrid* and burning taste, which remains long afterwards. It is *expectorant*, that is, the continued internal employment of lobelia, in as large doses as can be taken without disquieting the stomach, and repeated at regular and short intervals, removes torpor from the lungs, promotes the secretion and excretion of mucus, and muco-purulent matter from the bronchial membrane, and the secretion from the salivary glands. In addition to this, it exerts a specific operation on the pulmonary system, often diminishing the pulmonary secretion when morbidly increased, or improving or restoring to healthy action any morbid deviation. It is *cholagogue*. It removes torpor of the liver, occasions regular and increased secretions from that viscus when preternaturally deficient, or even when natural, and also from the digestive organs generally, thereby increasing peristaltic action. It is *resolvent*. Its power of removing or diminishing *atonic* arthritic articular inflammation, has long been known. It has also been recommended in membranitic inflammation of the larynx and trachea, and I am quite certain that it is not less efficient in resolving *atonic* erythematic inflammation of the bronchial membrane. It is unquestionably *narcotic*. Of this, in *my practice*, I have seen but very little, for when given in ordinary doses, in proper cases, and judiciously managed, I feel confident that its narcotic power is so weak that it will rarely do mischief. Yet when given in extraordinary quantities, or continued too long, or in cases too irritable and too susceptible to admit of its administration, as is no uncommon occurrence among certain privileged pretenders, it is sufficiently narcotic to produce serious symptoms, and we not unfrequently hear of restlessness, anxiety, prostration of muscular strength, coldness, vertigo, cramps, and rigidity of the muscles, following its use. When given in small doses and often repeated, I have occasionally seen burning in the stomach, great restlessness, uneasiness and anxiety produced by it, but never in cases that I consider proper for its administration. That it ever destroys life, I must be permitted to doubt. It is *emetic*. This article, when given in full doses, promptly increases the salivary, bronchial, gastric and biliary secretions, and freely and efficiently discharges these fluids with the contents of the stomach. In *my hands it has uniformly operated kindly*, producing less exhaustion, less protracted nausea, and less liquid discharges, than antimony, and more efficiently than cephælis ipecac., sanguinaria can., or zinc, and not less prompt than copper or per sub. mercury. As an emetic for clearing the stomach of any offending matter, morbid secretions, or for the purposes of producing a powerful shock on the system, removing torpor, or resolving certain non-

phlogistic diseases, I consider it in all respects an eligible article. But for the mere purpose of reduction in phlogistic diseases, I think it not at all adapted ; for, not to mention *the injury its acrimony might produce*, its action either on the alimentary canal, kidneys or skin, is too inconsiderable to render it of any value as a reducing agent.

The properties of *lobelia* reside principally in the seeds, capsules and leaves. The seeds are the strongest, and as they do not so readily impart their acrimony when taken into the mouth, may be administered when the tincture and infusion are objected to on account of their acrimony. The plant should be collected the last of its flowering season, before the early capsules burst, or the plant becomes dry. This is usually about the last of August.

Mode of administration.—It is given in the form of officinal tincture, infusion, or the dry seed may be very conveniently administered in any suitable vehicle. As this plant, like other acrids, loses much of its properties by keeping, the recent plant should be selected for pharmaceutic purposes, or for keeping, and excluded from the air in close vessels. The dose is a relative thing, but generally, for an emetic, $1\frac{3}{4}$ ij. or $1\frac{3}{4}$ ij. of the officinal tincture, or from four to twelve grains of the seed. For deobstruent purposes, where it is desirable to avoid disturbing the stomach, $1\frac{3}{4}$ ss. of the tincture, two grains of the seed, or four grains of the pulverized leaves, are a medium dose.

Therapeutic application.—This article, like all other deobstruents, requires a certain range for its action. That is, it is improper in all the entonic phlogistica. Neither is it adapted to cases where there is much irritation or exhaustion of the system. *It is best adapted to cases of torpor without exhaustion.* If given in an entonic state of the system, its use must be preceded by venesection, refrigeration and reduction ; or if when there is irritation, pain, or symptoms of considerable nervous susceptibility, its use must be accompanied with a sufficient quantity of papaver or morphia to quiet the pain and irritation. In fact, I have in most cases, when given in small doses for deobstruent purposes, combined it with a small quantity of morphia. I have thought that this qualified or corrected its action, and enabled the system to receive a larger quantity without unpleasant effects, and thereby I have been able to obtain a greater effect from the article. When there is much exhaustion, its use should be accompanied with wine, or even brandy. When given for emetic purposes, to insure safety, I have never given more than $1\frac{3}{4}$ ss. of the tincture, or twenty grains of the seeds, and if free and satisfactory emesis did not take place, I have administered a sufficient quantity of cephælis or zinc to answer the purpose.

To notice the abuses of an article that is so easily managed, is too humiliating for any intelligent member of the profession. The idea, however, that medicine is so simple that it may be learned without labor or study, and may be practised by any one, no matter how ignorant, if he can command twenty dollars, is too flattering and tempting to the ignorant and indolent to be resisted ; the result is, that the care of the sick, their health, happiness, and even their lives, are often entrusted to a set of men with whom we would not trust a dollar, whom we would not suffer

to keep a district school, or to transact the most ordinary concerns of life. Medicines are given in improper quantities and cases, and the most serious consequences, the loss of health and life, are the result. If the public will tolerate such things, I care not how much they suffer. "A whip for the horse, a bridle for the ass, and a rod for the fool's back," said Solomon; see Proverbs xxvi. verse 3d. A.

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FORMATION OF THE EAR.

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THE human ear presents, in its structure, a number of mathematical relations which are explicable on the supposition that its development is the joint effect of the vibrations of two elastic mediums impinging on each other; one without, which serves as a vehicle for the transmission of sounds, the other within, and immediately contiguous to the acoustic nerves. The most complete of these are the shape and position of the semicircular canals, and the cochlea. The external ear and the ossicles afford also some interesting considerations, but, as they are more irregular and complex, especially when viewed with reference to the imperfection of the science of acoustics, I shall only attempt to show the mode of formation of the two first.

1. The semicircular canals are three cylindrical and symmetrical tubes.
2. They have each an enlargement where the nervous filaments enter.
3. They are curves, the concavities of which all look towards the vestibule.
4. The planes of these curves are perpendicular to each other.

Comparative anatomy exhibits the organ of hearing, immediately previous to the formation of the semicircular canal, as consisting of a couple of simple sacs, with a calcareous body suspended in a fluid contained within them by nervous filaments. These calcareous bodies I conceive to occupy the points where the undulations of sound are concentrated, and are formed by the nervous fluid issuing from the extremities of the nerves to which they are attached. Perhaps they represent the foci of two spheres. Their use in this primitive form is to receive the simple impression of sound occasioned by the impulse of the sonorous undulations, being incapable of appreciating those higher modifications on which musical notes or articulations of voice depend. From them the undulations are again reflected, and the liquid in which they float is the effect of the vibrations of the elastic fluid to and fro, in exceedingly small spaces, as they diverge or converge between these foci and the stratum of fluid which may be imagined to correspond with the circumferences of the spheres which reflect them. In this stratum the formation of a nervous expansion would take place. Were these vibrations perfectly uniform and regular, and from a single centre, as in the

eye, a spherical nervous expansion, like the retina, whose concavity looked towards that centre, would be formed. The absence of this regularity in the ear is the cause of the membrane dividing and forming the semicircular canals and sacculi.

The rudimentary form of the canals is first distinctly noticed in the lamprey. The membrane of the vestibule in this animal is thrown into three folds. The margins of these folds, looking towards the vestibule, are approximated, and, following the law which is now known to regulate the formation of hollow tubes, doubtless unite and coalesce in the next higher species of fish. As soon as this takes place, the undulations are no longer transmitted to the nervous fibrils directly from the centre of the vestibule, but enter at one extremity of the tube and pass to the other, where they become obliterated, or reflected back again. The increased concentration of nervous fluid at the point where this happens, aided by the lateral direction which must be given to the vibrations, unless (which is not the case) they impinge perpendicularly on a plane of that fluid at right angles to the parietes of the tube, would occasion the enlargement to which the name of ampulla is applied.

Several forces may be conceived to act in giving the semicircular form to the canals. The oblique direction in which the vibration enters the orifices may have something to do with it, as friction would be less semicircularly; but it is chiefly owing to the two following circumstances. 1. The nervous fluid is diffusing itself equally in all directions, like heat or electricity, from any point where it accumulates in greater quantity than in parts contiguous. The nervous expansion of the vestibule may be considered one of these points. A stratum of this fluid, then, coinciding with that half of the cylinder nearest to the vestibule, is more dense than a stratum coinciding with the opposite half; for both being equidistant from the nervous cord within the canal, that portion of the fluid radiating from this cord is a constant quantity in each, while an excess is produced in the one nearest the vestibule from the radiation thence. Each undulation would, therefore, be reflected after passing through a smaller space from the vestibular portion than from the opposite portion. The consequence of the greater length of these undulations on one side than the other, would be the gradual removal of the bony parietes towards the side where the undulations are longest, until some physical modification is produced which counterbalances the difference in density and elasticity of the two strata. This physical condition is attained when one of these strata is in the situation of a convex reflecting medium, and the other in that of a concave reflecting medium; the effect of a concave reflecting surface being to concentrate, that of a convex being to disperse. Such is the manifest relation of the two opposite halves of the bony cylinders of the semicircular canals of the ear. 2. While such is the effect of the undulations themselves, the fluid, passing off from the nervous expansions on the membranous tubes, also causes them to recede from the vestibule, in consequence of the greater counter-pressure being exerted upon them in a direction perpendicular to the centre of the nervous fluid in the vestibule.

The position of these canals relative to each other is easily accounted

for by considering the effect which the reaction or counter-pressure of this fluid, radiating from every point of their lengths, must have upon their disposition. They must assume a position as nearly corresponding to an equilibrium as is compatible with the above conditions. This position for three curved cylinders whose ends approximate, is attained when their planes are perpendicular to each other; for then the centres of those cylinders are at the greatest possible distance from each other, allowing the fluid to radiate from all points of their surfaces with the least possible interference. Hence the combined repulsion of the three tubes, acting perpendicularly from the vestibule, disposes their three concavities to look in that direction, while their mutual repulsion places them in planes perpendicular to each other.

The cochlea is developed precisely in the manner of a turbinated shell, which it resembles. To the apex of every spiral shell the ligament adheres by which the animal is attached to its bony covering, and this connection is always maintained, even though the body of the animal is removed, as it sometimes is, from the upper, and inhabits the lower part of the shell. If, now, we suppose the nervous fluid to proceed along the course of the fibres of this ligament, at the moment it reaches the surface of the animal it would be affected in the same way as light when it arrives at a convex surface of a dense medium, and is about to pass into another. A part would be reflected by the resistance it meets with, and since it could not be thrown back perpendicularly, by reason of the fluid continuing to issue from that direction, it would be compelled to move over the surface of the animal, for the stratum of space contiguous to this surface is where the two mediums are in apposition with each other; and if the motions going on in both do not coincide, they produce an effect which is the same as would result were the fluid less dense, or opposing less resistance to the current moving through it, than through any other stratum of either medium. It would, therefore, follow this in preference to any other direction.

If any one who reads this will be at the trouble of examining some of these shells, he will be able to appreciate at once the value of these observations. He may recognize no less than five or six different points in which their shape and structure correspond to the operation of the laws of a fluid such as I have supposed, issuing from the apex, reflected and acted upon by a force compounded of two, an horizontal and a vertical force, in the diagonal of which it moves. The helical turns, their constant expansion vertically, their continual departure from the centre of the cone, the spines and undulations, which are found on many of them at regular intervals, and the disposition of the crystal of carbonate of lime in the three plates of the laminae that compose the shell, are deducible from the action of such a fluid, with mathematical precision. Most of the bivalve shells are also as plainly stamped with the impressions of this fluid on their surface, as flowers with colors.

Applying the same remarks to the cochlea, the formation of its bony parieties may be understood. The nerve that passes through the centre of the modiolus corresponds to the ligament of the molluscous animal. The nervous expansions radiating from the modiolus as a base line into

the spiral tubes, represent the body of the animal, from which the fluid is diverging in all directions, and removes the spiral turns successively further and further from the modiolus as they approach the base. If we suppose the fluid to commence its departure from that point of the modiolus where the infundibulum begins, the funnel shape, to which that name is given, being the first effect of its divergence, is an additional corroboration of the hypothesis. A further confirmation is the fact that the spiral tubes of the cochlea are developed from the apex, and increase towards the base, in the successive gradation of animals.

Dec. 21, 1837.

B. H.

SECONDARY VARIOLOUS OPHTHALMIA.

BY EDWARD J. DAVENPORT, M.D., BOSTON.

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MANY of the eruptive fevers, it is well known, are accompanied with, or followed by, diseases of the eye and its appendages. Thus we have morbillous and scarlatinous ophthalmia, as the result of measles and scarlet fever. Other cutaneous diseases occasionally invade these parts; and I have recently seen a patient with pytiriasis rubra, under the care of Dr. Gordon, of this city, in whom the disease had effected, extensively, the integuments of the eyelids of both eyes. In former times, before the practice of vaccination had become general, variola was a very common cause of diseases of the eye, frequently of the most destructive character. Hence many cases of indelible opacity of the cornea and staphyloma, which occur in this way. During the time of the general eruption on the body and face, one or more pocks or pustules form on the cornea, where, unfortunately, they are much more apt to occur than on the conjunctiva covering the sclerotica. When the pustule bursts, the ulcer, thus formed, spreads and deepens, and perforating the cornea gives rise to protrusion of the iris. Then lymph being thrown out, and adhesions taking place between the iris and cornea, a dense leucoma or indelible opacity, perhaps complicated with closure of the pupil and obliteration of the anterior chamber of the eye, would result. In some cases, the cornea being so much weakened as to be unable to resist the pressure of the humors from behind, is protruded more or less between the lids, and a partial or total staphyloma takes place. Vision is entirely destroyed in some cases, while in others it is impaired only, according to the situation and extent of the opacity consequent upon the disease. Among other diseases caused by smallpox, I have seen, more than once, in children, chronic inflammation with purulent discharge, or blenorhœa of the lachrymal sac, attended, of course, with *stillicidium lachrymarum*, and the usual train of disagreeable symptoms resulting from any obstruction of the excreting parts of the lachrymal organs. The margins of the eyelids may also be left, by an attack of smallpox, with red marks or scars, accompanied by a great proneness to inflammation upon any exposure; in some cases an inversion of the eyelashes may occur, &c.

In the treatment of variolous ophthalmia, Mackenzie speaks of venesection, as a remedy that is barely admissible, and one that is to be made use of with the greatest caution. This caution may have reference to the state of the patient's system, which is by no means to be disregarded in the general treatment adopted in diseases of the eye; but under ordinary circumstances, I presume that variolous ophthalmias require the same remedies as other acute inflammations of this organ. In the following case, the good effect of venesection, in subduing inflammation, was striking and immediate.

James Bell, seaman, 28 years of age, applied 18th February. On his passage from Smyrna to this port, when some days out, he was attacked with smallpox, which became confluent on the face. During the height of the eruption, the eyelids were closed and adhered together, as frequently happens from the swelling of the integuments, and the matter discharged from the meibomian glands in a state of irritation. Upon the subsidence of the swelling and the commencement of the process of desiccation of the pustules, he examined, of his own accord, the condition of his eyes, to ascertain, as he said, whether any of the "pocks" had affected the eyeballs. He found them free from any pock or inflammation, and there existed merely a stiffness of the eyelids and a slight irritability of the tunica conjunctiva, which rendered exposure to strong light somewhat unpleasant. He considered himself, indeed, in all respects, well enough to return to his duty on board ship, when, without any known exciting cause, he was attacked with the ophthalmia, on account of which he now applies. The disease was confined to the right eye, and commenced with the usual symptoms of acute conjunctivitis, such as a feeling of roughness, or a sensation as of sand or some foreign body in the eye, smarting and flow of tears. These symptoms were very soon followed with pain in the brow over the affected eye, extending along the head, on the right side, to the occiput. The character of this pain was "sharp;" it was invariably aggravated at night, and was so severe, that for the last three weeks he had had no quiet sleep at all. Upon exposure to the light, or upon using the well eye, he experienced a darting pain through the inflamed eye, which obliged him immediately to desist. Vision became impaired soon after the commencement of the attack. Has had no medical treatment. Upon removing the thick bandages, with which, in accordance with popular error and prejudice, the inflamed organ was bound up, and irritated by the heat and the retained secretions, the vessels both of the conjunctiva and sclerotic were found to be much injected and of a dark-red color. The vascularity, however, was mostly confined to the vicinity of the cornea, forming around that membrane a broad circle or zone. At the upper part of the cornea, there was a deep-seated opaque spot, of a dull-white color; and extending from this towards the margin, was observed a nebulous opacity in the form of a cone, of which the dense spot formed the apex. This spot was a pustule situated in the substance of the cornea, and from the circumstance that the conjunctiva covering it, was flattened or depressed, it may be inferred that its contents had either been discharged in some way, or, what is more

probable, had been absorbed. The remaining portion of the cornea presented a hazy and *lack-lustre* appearance—if the term is allowable. The pupil was contracted and motionless; but the exact condition of the iris and pupil could not be ascertained, owing to the opacity of the cornea. Vision was nearly extinct; he could distinguish the light, he said, and that was all. Tongue coated, with thirst and a disagreeable taste of the mouth; the pulse full and strong, and the patient of a robust habit of body. The supra-orbital pain—indicating, according to Mackenzie, inflammation of some of the more important textures of the eyeball, as the cornea, sclerotic and internal tunics—continuing severe, he was bled from a large orifice in the arm to twenty-five ounces, when he became faint. Before this amount had been taken, and previous to any indications of faintness, the patient was entirely free from pain, and the power of vision was so far restored to the affected eye, as to enable him to distinguish, readily, objects in the room. At the same time the eyeball became nearly as pale as in health, and a very perceptible diminution of the haziness of the cornea was noticed. This rapid dispersion of nebulous or diffused opacity of the cornea, by active depletion, serves to show that such opacities may, to a certain extent, be dependent on a congested state of the serous vessels of that membrane, which being relieved, the natural transparency returns. In addition to the venesection, the patient was directed to take a full dose of calomel and jalap, and to have six or eight leeches applied to the temple in the evening; also to apply to the brow an anodyne embrocation with tincture of stramonium. Antiphlogistic diet and rest.

February 19. Had had some pain about the brow, which was relieved by the local application. The redness of the eye and the opacity of the cornea have diminished in a remarkable manner, the entire cornea having regained its transparency, except a small spot now occupied by the pustule. The iris, previously concealed from view, it was evident from its change of color, from the contraction of the pupil, &c., had participated in the inflammation of the other textures. May repeat the application of leeches to the temple, and take every night one of the following pills. R. Hydrarg. submur., camph. pulv. $\frac{aa}{3}$ gr. xij.; opii pulv. gr. vi. M. in pil. no vi. dividend.

21st. Inflammation much diminished; pupil remains fixed and motionless as before. Repeat the leeches, and apply round the eye the diluted extract of stramonium, morning, noon, and night.

22d. Vision improving: can distinguish the figures on the face of a watch; state of the pupil not influenced by the stramonium. Continue the extract and the pills of the 19th.

26th. Pupil remains the same; gums slightly tender. Omit the pills; continue the stramonium and application of leeches.

28th. The pupil is now moderately dilated, and presents a very irregular margin, with partial adhesions to the capsule of the crystalline lens. Vision improving.

March 6th. The opaque spot on the cornea is reduced to a scarcely perceptible point; vision nearly as perfect as that of the well eye. As a stimulant and corroborant, may use daily a collyrium of sulphate of

zinc, grains two to four to the ounce of rose water, and omit other remedies.

In conclusion, it may be observed that the above case presents a well-marked instance of the extension of inflammation from the external to the internal textures of the eye, a consideration never to be overlooked in the treatment of cases of severe ophthalmia.

No. 4 Winter Street., Dec., 1837.

BOSTON MEDICAL AND SURGICAL JOURNAL

BOSTON, DECEMBER 27, 1837.

MAUNOIR ON CATARACT.

AN Essay on Cataract, by Theodore Maunoir, M.D., of Geneva, translated from the French (*Mémoires de la Société Médicale d'Observation*), by Dr. Bowditch, of Boston, is given in the last number of Dr. Dunglison's Journal, which is an uncommonly excellent production, arranged under the following heads, viz., 1st, causes of cataract; 2d, origin, course of disease; 3d, symptoms and diagnosis; 4th, length of time elapsing between the commencement and perfect formation of the cataract; 5th, description of the operation, its difficulties and accidents; 6th, consequences of the operation; 7th, results; and 8th, prognosis. It is decidedly one of the most important papers which has appeared in that publication since its commencement, and we doubt not will be fully appreciated by medical readers. Everything in it, in the first place, is exact—and then, again, it is not so burdened by extraneous matter as to conceal the author's intention of instructing those who consult him. To those who do not take the Library, we cordially recommend them to possess themselves of this very useful and instructive translation.

Cure of Varicose Veins.—From the *Bulletin Générale de Thérapeutique*, a short article has been introduced into the American Medical Library, stating that M. Bounet, Surgeon-in-chief of the Hotel Dieu, at Lyons, has treated eleven cases of varicose veins by introducing pins through their cavities, and allowing them to remain some time. Nine of them were cured. In hernial sacs he has pursued a similar mode of treatment. Three or four pins are forced through the herniary envelopes, close to the inguinal ring, and in order that they may exert a certain degree of irritation as well as compression, on the sac, the heads and points are twisted, so as to give them a circular direction. The inflammation and pain commence, usually, on the third or fourth day after the operation, and soon after, in M. Bounet's cases, the pins were removed. Caution is recommended, in order to secure the spermatic cord from injury.

Medical Books.—Mr. W. D. Ticknor, Washington street, has issued a catalogue of medical books, which he has on sale at his extensive book-store in Boston, embracing the most complete assortment, perhaps, ever

offered before in New England, in anatomy, surgery, theory and practice of physic, chemistry, *materia medica*, midwifery, and medical jurisprudence, together with a host of periodicals for which he receives subscriptions and furnishes back numbers. We take pleasure in recommending this collection to the patronage of the medical public, with a hope that the encouragement which it is in the power of our professional brethren to bestow, will be an inducement to him, in future, to anticipate their wishes by procuring from domestic and foreign publishers an early supply of all the valuable productions emanating from the press. Those who have never examined the magnificent system of anatomy by Bourgery, no where else to be purchased this side of New York, will be amply compensated by devoting an hour to its inspection at Mr. Ticknor's bibliographical establishment.

Lectures on the Materia Medica.—We are pleased to learn that Dr. Tully, of New Haven, is preparing for publication a synopsis of his lectures on the *materia medica*. There is not, probably, an individual in the country so well qualified to send forth a work on this important branch of our science, as Dr. T. He has undertaken it, we are informed, at the request of his present class, in the Medical School of Yale College. It will not be published, we presume, before spring.

Medical Miscellany.—A malignant fever has been very fatal to the Europeans on the river Gambia, in Africa.—Dr. James Holmes has been re-elected mayor of Darien, Geo.—Dr. Morrison, now in prison for high treason, was mayor of the City of Toronto. The Canadian physicians seem to have taken a conspicuous part in the late rebellion. Dr. Kimber, Dr. Valvise, of Ponte Claire, Dr. Wolfsred Nelson, besides many others belonging to the profession, are either in durance at this moment, or seeking refuge in the States. Dr. Rolph, one of the patriot leaders, is at Buffalo. Dr. Baldwin is among the persecuted.—A bill has been reported in the South Carolina Legislature, exempting the Thomsonian practitioners of that State from their disabilities.—Nineteen cases of smallpox existed at Woodstock, Vt., at the last accounts. Dr. Perry, of that town, is reported to have died with it.—Invalids are hastening to St. Croix and St. Thomas, in great numbers, from the Atlantic cities. Most of them would be far more comfortable at home, at a much less expense.—Gregory's truss begins to gain the praise of surgeons.—Messrs. Brewer & Brothers, No. 92 Washington street, have an admirable collection of excellent surgical instruments, worthy the attention of professional gentlemen.—Mons. Poyen has delivered one lecture on animal magnetism at Worcester.—The cost of advertising quack medicines in the twenty-four States, annually, is supposed to amount to two hundred thousand dollars. A peck of pills a day is considered necessary for Boston, and half a bushel for New York. On an average, only one in twenty-five who take them are actually sick—and the proportion of those who dispense with some necessary of life to purchase nostrums which do them a positive injury, is in the ratio of eighty-seven to every hundred, throughout the country.—The Thomsonians seem inclined to revolutionize orthography as well as medicine. In a late No. of one of their New England periodicals, the word *volume* is spelt, repeatedly, *column*.

Comparative Pain of Cupping.—As to pain, many persons prefer being cupped to leeching or venesection. Those who calculate the pain incurred in cupping by comparison with a cut finger, are very much deceived; in fact there is rarely any pain felt in this (the cutting) part of the operation, nor is any inconvenience suffered from it afterwards. The previous application of the glasses seems to deprive the part of its usual sensibility. The whole inconvenience, in fact, rests in the glasses, the application of which seems to lay a very heavy load upon the part; but this is all that is felt. On the temple, the extra pressure made by the glass upon one particular part, of necessity forms a slight exception to this rule; and of course, in cases where the mere touch of the finger will occasion pain, we cannot expect the cupping glasses to be applied with impunity.

DIED.—At Princeton, N. Y., Dr. Ebenezer Stockton, aged 77.—At Halifax, N. S., Samuel Head, M.D., an eminent physician and magistrate of that city.—At Exeter, N. H., Joseph Tilton, M.D., aged 94.—At Amherst, Dr. Rufus Cowles.—At the McLean Asylum, at Charlestown, Mass., Dr. Joseph Chapman, of Connecticut, aged 44, of epilepsy.

Whole number of deaths in Boston, for the week ending Dec. 20, 18. Males, 11—Females, 7. Consumption, 2—dropy in the head, 2—child-bed, 1—scarlet fever, 2—Inflammation of the lungs, 2—measles, 1—typhus fever, 1—coma, effect of nervous convulsions, 1—delirium tremens, 1—cramp, 1—marasmus, 1—stillborn, 2.

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Oct. 18—tf

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PHYSICIANS in any section of the United States can procure ten quills charged with Fever Vaccine Virus by return mail, on addressing the editor of the Boston Medical and Surgical Journal, enclosing one dollar, post paid, without which, no letter will be taken from the post office. Oct. 25.

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JOHN JEFFRIES, M.D.
R. W. HOOPEE, M.D.
JOHN H. DIX, M.D.

Franklin Street, Nov. 9, 1836.

July 19—6m

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